

AN ASSESSMENT OF THE SATELLITE MARKET AS A DECONGESTION STRATEGY IN KUMASI, GHANA: THE REALITIES

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ABSTRACT

The challenge of congested large physical market centres/spaces in developing country cities has grown over the years as the populations grow while their local economies tend to be largely informal, requiring a lot of direct personal interaction. In some cases, satellite markets have been developed in the case of Ghana to take care of the basic commercial needs of their residents while decongesting the central business districts (CBD) of such cities. This paper is aimed at enabling the investigator to grasp and understand the barriers of satellite markets as a strategy to decongesting the CBD. The units of enquiry for the data collection were KMA and buyers and sellers in the satellite markets. The method adopted for the collection of data was questionnaire interviews. The major findings identified from the survey are: the uniqueness of the CBD made it very attractive to consumers and traders alike. Secondly, some of the economic benefits derived from the satellite markets as traders are boosting of economic activities in the markets as more traders will be attracted to the satellite markets. Also, the major problems which were identified in the satellite markets were; types of facilities, availability of products and to some extent the security in these markets, inadequate facilities to attract traders to the markets, inadequate security, limited space or market area, unavailability of some goods and products sold at the satellite markets. The recommendations from this study includes; Education and coordination of the stakeholders, Expansion of the satellite markets to accommodate more traders and Provision of facilities that attract traders to the satellite markets.

KEYWORDS: Satellite Market, Decongestion

INTRODUCTION

Commerce has become an essential part of the Ghanaian economy and in recent times the proportion of the citizenry engaged in this sector has been increasing steadily (GSS, 2010). In 2010, the commercial sector employed about 16.8% of the national labor force and this rate seem to be increasing at a rapid rate (GSS, 2010). The rise of the commerce sector especially in most developing countries is attributed to rapid population growth mostly in urban areas. This has led to congestion in most of the market centers. Developed countries such as the United States of America and the Great Britain have made great strides in incorporating the rapid growth of the sector into their development agenda and infrastructure development. Hence, making buying and selling comfortable and delightful in those parts of the world.

In most developing countries including Ghana, markets are congested and overly-populated by human and vehicular traffic which has led to bad consequences (Daily Graphic, 2013). Mention can be made of the almost annual fire outbreak at the Aboboloshie Market, Makorla Market and the Kumasi Central Market since 2010. For instance, Kumasi has one of the biggest markets across the West African sub-region which is very much congested (Solomon-Ayeh, 2008).

The daily influx of people into the market has increased over the years leading to severe vehicular and human congestion. The effect of this congestion is stress, longer hours of doing business, longer hours in traffic and discomfort to shop owners and shoppers (Solomon-Ayeh, 2008). Some of the problems that the central market in Kumasi faces are pressure on facilities, choked markets, encroachment on fire hydrants, fire outbreaks and inadequate lanes for traders hence, causing congestion.

This phenomenon that has grown over the years has given rise to the need for the development of well-planned market system to take care of the basic needs of man. One strategy proposed to the alleviation of this problem is the concept of developing satellite markets at the peripheral of Central Business Districts. Thus, it is believed that satellite markets will absorb some fraction of traders and buyers moving into the central markets and ultimately reduce overdependence on the central markets and hence reduce congestion. Nonetheless, after years into the satellite market system, the CBD is getting more congested with each passing time. The following questions arise:

- What are the factors that push and pull to traders to the satellite markets?
- What are the challenges making the satellite markets unattractive for both sellers and buyers?
- What are the traders' expectations in the satellite markets?
- What are the institutional challenges in the development of the satellite markets?

This paper seeks to investigate the factors that are drawing consumers and sellers towards the central market rather than the developed satellite markets and ascertaining the challenges that need to be dealt with to make the satellite markets more attractive to the buying and selling public.

LITERATURE REVIEW

Commercial activities in the country dates back to the pre-colonial days when the medium of trade was 'barter trade'. This continued when the first "whites" reached the shores of the country. Like many countries in Africa, the main method of trading was through the barter system. People exchanged goods and services for other commodities and services that were being offered. As trade became more liberalized, people traded their goods and services for cowries known locally as 'cedie' (KMA, 2012). This later became the country's currency the cedi. There are ten administrative regions in Ghana with each having their own regional capital. Every region has at least one major market where peculiar goods and services offered at minor markets would be readily available and at a cheaper price. Some of the major markets in the country are Kotokoraba market in Cape Coast, Market circle in Takoradi, Central market in Kumasi, Kantamanto, Makola in Accra, Kintampo market in Kintampo among others (Millennium City Initiative, 2011).

This section emphasizes on issues such as population characteristics and the major economic activities in Kumasi, roles of markets in the economy of Ghana, types and location of markets in Kumasi, challenges of the central markets and the role of satellite markets in decongesting the Central Business District (CBD).

Economic Characteristics of the Metropolis

Majority (86%) of the population in Kumasi are economically active. The economic activities sustaining the livelihood of the people can be categorized into agriculture (23%), industrial (5%) and service sector (72%) respectively (KMA, 2012). The commerce sub-sector constitutes about 80% of those under the service sector. There are 20 recognized

markets in the metropolis for commercial and economic activities (KMA, 2012). Commercial activities are centered on wholesaling and retailing. Both banking and non-banking financial institutions also offer ancillary services. Other areas worth mentioning are the professionals in planning, medicine, engineering, teaching and law practice. Another group of service providers are hairdressers and dressmaker/tailors. The formal estates of large industries located along the Asokwa-Ahinsan-Kaase stretch are engaged in timber milling and plywood manufacturing for the local market and export.

The famous Suame Magazine where small engineering based industries are sited contributes immensely to the economy of the metropolis. The woodworking business at Anloga produce to meet the needs of residents as well as clients from Accra and other parts of the country and neighboring countries of Burkina Faso, Ivory Coast and Mali.

The Central Market

The central market is an open air market in the city of Kumasi, located in the southern central part of Ashanti region. It is in the rain forest region about 250km by road, northwest of Accra. Kumasi is approximately 480km north of the equator and 160km north of the Gulf of Guinea. It is popularly known as 'heart beat' of Ghana because of its many beautiful species of flowers and plants. The central market is the largest open air market in West Africa. It is bordered by Kumasi cultural centre to the north, Komfo Anokye Teaching Hospital to the northwest and the southern part forms border with Adum, the commercial centre of the city, that is, the Central Business District (CBD). Virtually everything that one needs to purchase from a market can be found in the market. It ranges from jewelleries, food, toiletries, gorgeous fabrics, spices, grains among others.

Challenges of the Central Market

The Kumasi central is choked with sellers. The maximum or ideal dimension and size of a market is 250,000m² (Ernst and Neufert, 1998). The central market which is the largest open market in West Africa is approximately 150-180,000m². Because of the generality of the market where all kinds of goods and services are available, including foodstuffs, clothing, building materials, groceries among others. All traders are willing to buy and sell in the market and thus the cost of the goods are relatively cheaper compared to other markets, therefore rational consumers are willing to transact economic and other commercial businesses in the market, rendering the place choked.

Limited stalls for traders is another challenge facing the central market. Due to the nature of the market in terms of size, stalls for traders to transact their businesses are limited, which results in the erection of unauthorized and illegal structures in the market. Also, over-concentration of all the major commercial activities in the CBD has resulted in this problem because all traders are eager to acquire a stall within the CBD for the smooth running of their commercial activities. There are limited stalls as a result of congestion within the central market.

One common issue that markets in Ghana face is the problem of market fires. These are rampant and their effects, typically, are that goods and structures are destroyed with the cost running in huge sums of monies. The congested nature of the entrance to the market makes it practically impossible for fire personal and their tenders to enter the markets in the event of any fire outbreaks. The drive-ways within the markets are now crowded with sellers and buyers doing brisk business. Encroachment on fire hydrants makes it difficult for fire personnel to get access to water when there is fire outbreak. This is a serious problem which must be tackled by the city authorities in charge of the day-to-day running of activities in the market. Due to the limited land available for commercial activities with the metropolis, traders result to using unauthorized and illegal means of acquiring space to transact business in the market. Fire service personnel find it

difficult to rescue lives and properties when there is a fire outbreak.

No parking facility within the market is a challenge facing the central market. Due to the congested nature of the market, vehicles do not get places for parking. Vehicles that take their route through the market do not have access to recognized and demarcated parking facilities. Vehicles result to on-street parking which reduces the width of the road and also increases the travelling time within the CBD.

Lastly, a dual lane reduced to single lanes due to congestion in the market is a major challenge. Congestion occurs in the market when demand for usage exceeds the optimal carrying capacity of the road at specific locations and times of the day. Mobility is an essential human need. Human survival and societal interaction depends on the ability to move people and goods. Efficient mobility systems are essential facilitators' of economic development. Cities could not exist and global trade could not occur without systems to transport people and goods cheaply and efficiently (WBCSD, 2002).

Satellite Markets

The daily influx of people into the central market has increased over the years leading to congestion. The effects of this congestion include; stress, longer hours of transacting business, longer hours in traffic and discomfort to traders (Solomon-Ayeh, 2008). The strategy proposed by city authorities to effectively and efficiently manage congestion in the markets is the concept of developing satellite markets at the peripheral of the CBD. This idea will absorb a fraction of traders and consumers from moving to the CBD and reduce the over dependence on the market significantly. Based on the identified challenges of the central market, the Sm Markets are generally places where goods and services are available for traders for the benefit of buying and selling. There are two types of markets.



Source: Author's Field Survey, 2015

Figure 1: Showing of Congestion in the Central Market



Source: Authors Field Survey, 2015.

Figure 2: Choked Kumasi Central Market

Number and Location of Satellite Markets in Kumasi

Satellite markets have been built for all suburbs to meet the present and future needs of the communities and the city as a whole. These, however, have not functioned as they should have and many of them operate below capacity. Despite the numerous directives from government for the street traders to relocate to these markets, the markets continue to remain empty, whiles the street and pavement are chocked with traders.

The global experience with satellite and purpose-built markets for decongesting the CBD has generally not been successful (Cross, 1995; Skinner, 2000). These markets are often constructed in order to legalize informal activities; improve vendors' security of tenure, and as part of spatial cleansing. Against this background, city authorities generally fail to take into account either the location needs of satellite markets or the differential needs of different enterprises. It is therefore vital to involve the satellite markets in the planning of such markets.

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RESEARCH SCOPE AND METHODOLOGY

The study was conducted in the Kumasi metropolis which the 2010 Population and Housing Census puts its population at 2,035,064 in the Ashanti Region of Ghana. Kumasi has a population density of 9,154 per square kilometers. However, Kumasi is not entirely urban. It is estimated that 48%, 46% and 6% of the metropolis are urban, peri-urban and rural respectively. Five satellite markets were chosen from each of the nine sub-metros where the survey was conducted. The satellite markets chosen include; Atomsu market, Ayigya market, Suame market, Kwadaso market and Old Tafo market.

The case study research design was used for this study since it is an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used (Yin, 1984). Kumasi Metropolitan Assembly (Engineer's Department), Town and Country Planning (TCPD), Sub-metros where the satellite markets are located institutions were selected using the purposive sampling technique. For the sampling of buyers and seller an activity-count was done for both Central Market and five (5) satellite markets to determine the sample size for the questionnaire administration. The activity-count was done on 3rd and 5th of February for both buyers and sellers in the various markets between the hours of 7am and 6pm to determine the sample frame. The sample size was derived from the sample frame using the mathematical formula: Sample size (n) = $N/(1 + N \alpha^2)$. Where N = Sample frame and α = confidence level.

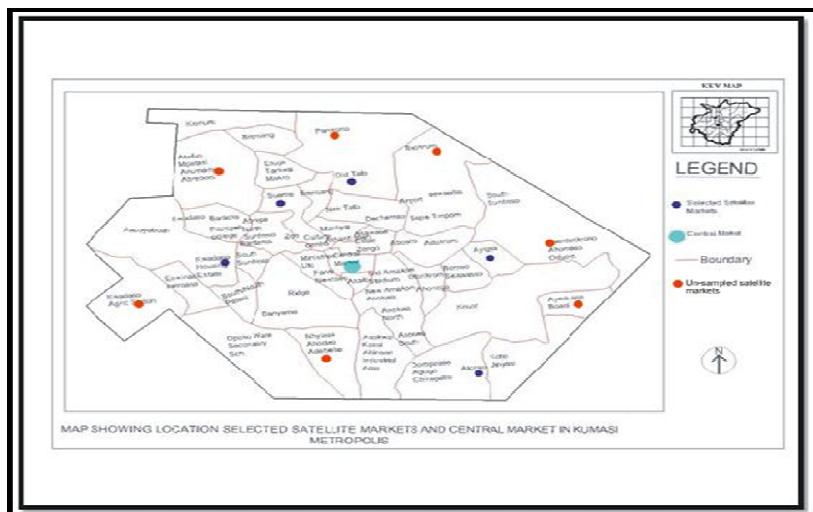
From the activity count conducted in the satellite markets the buyers and sellers were 1102 and 1249 respectively (See Table 1 for the break down per sampled markets). The sample size was derived from the sample frame with a

confidence level of 90% (thus, a margin of error used of 10%). Thus a sample size of 40 buyers and 45 sellers. These figures were pro-rated according to the population in all the different markets. A combination of questionnaire administration and face-to- face interviews were used to solicit for primary data. Questionnaires were however, the major data collection tool.

Table 1: Sample Distribution of Buyers and Sellers in the Markets

Name of Market	Sellers	Sample Size	Buyers	Sample Size
Suame	250	10	344	9
Kwadaso	250	8	87	8
Tafo	220	9	341	9
Ayigya	218	9	161	6
Atonsu	209	9	316	8
Total	1102	45	1249	40

Source: (author's construct, 2014)



Source: Town and Country Planning Department, 2014

Figure 3: Map Showing the Selected Satellite Markets and the Central Market

ANALYSIS AND DISCUSSIONS

Background Information of the Respondents in the Satellite Markets

The average age for the sellers' was 33 years and the median age range was 25-45 years. This age range falls under the economically active working force. Thus, for one to have all the energy and zeal needed for brisk selling, the youthfulness of one's age is a key factor. It is also, evident of the direct impact the youth has on economic development and for which matter policies need to be focused on the youthful age group. The median age of buyers sampled in the satellite markets was 22-37 years, again the youth. This confirms the study of Solomon-Ayeh (2010), that because street trading or commercial activity is a tedious and energy consuming activity, it is mainly the active and youthful population who get involved in it. Also, the data gathered indicates that, 86.7% and 13.3% of the sellers were females and males respectively. This was not surprising as selling has since time immemorial been seen as a woman's job. This also implies that any advocacy for market development should be women centered. The average age of buyers in these satellite markets are between 22-37 years.

The level of educational attainment of the sellers was quite interesting. It was revealed that 60% had attained primary education and could read and write with 40% of the traders been illiterates. Again, this revelation was expected as traditionally, trading (thus buying and selling) is deemed to be a profession for the school dropouts and the illiterates. There have been instances where family members mobilize money to set up trade for their wards and children who drop out of school, especially the females. Also, 75% of the sellers had attained basic education, that is, primary education. It helps in information dissemination and sensitization of the traders within the markets. According to Solomon-Ayeh (2010), majority (53 percent) of the street traders had obtained education only up to basic school level which by Ghanaian job placement standards meant that these respondents were not likely to get employment in the formal sector.

Pull Factors to the Satellite Markets

The satellite markets were designed and built for different purposes and it was important to ascertain the extent to which these purposes had been achieved. Thus, factors that tend to attract the commerce population (thus, sellers and buyers) into these satellite markets were investigated. From the survey, about 72.5% of the buyers indicated that the location of the satellite markets makes them unique since they are mostly located along the major roads passing through the various communities. Most of the buyers would like to buy from markets that are close thereby reducing travel time and cost. This give credence to why the satellite markets are also known as the neighborhood markets. They are built within the communities and in most cases are more centrally located. Also, 12.5% and 15% of the buyers stressed on the size and facilities available in the satellite markets (as seen in Table 2).

Regarding the assessment of the pull factors for the sellers, same factors namely, convenience in the location, the size and spacious nature and the kinds of facilities available. About 64.4% of the sellers in the satellite markets indicated that, the location of these markets makes them unique. Also, the size and facilities available constitute 20% and 15.5% respectively. This makes the satellite markets unique and attractive to the sellers that trade in these markets. 82% of the sellers indicated they would like to sell at markets that are close to buyers.

Table 2: Push and Pull Factors to Satellite Markets

Uniqueness of the Market	Buyers		Sellers	
	Frequency	Percentage	Frequency	Percentage
Location	29	72.5	29	64.4
Size	5	12.5	9	20
Facilities available	6	15	7	15.6
Total	40	100	45	100

Source: Authors Construct, March, 2014.

Facilities Available in the Satellite Markets

Major facilities available in a satellite market are a determinant factor that attracts traders to these markets. From the survey, 57.8% of the sellers indicated that lorry/bus terminal is a major facility that makes a market vibrant and competitive. This is confirms the assertion by Solomon-Ayeh (2010) that markets tend to develop around bus terminals with legally or illegally. However, in this case, there was a purposive attempt to develop these satellite markets close to the bus terminals and it seems to be working according to plan by attracting traders.

Studies by Solomon-Ayeh (2010) and others indicate that the absence of toilet facilities at market places can serve as a repulsive factor to traders. However, for the sampled satellite markets, it was revealed that 20% of the traders were attracted to that make satellite markets attractive to buyers are washrooms and a parking facility constituting 20% and 22.2% of the sampled sellers. According to Neufert (1998), some facilities that should be provided within a market are postal agency, water, electricity, police post and a local sanitary area. Also, 68% sellers are interested in trading in markets where basic facilities such as water, electricity, urinal or toilet, police post among others are available (See Table 3).

Table 3: Facilities Available in the Satellite Markets.

Facilities available	Buyers		Sellers	
	Frequency	Percentage	Frequency	Percentage
Toilet/urinal	9	20	18	45
Parking facility	10	22.2	22	55
Lorry/bus terminal	26	57.8		
Total	45	100	40	100

Source: Authors Construct, March, 2014.

From the survey, it illustrates that parking is a major facility that attracts a buyer to a satellite market which constitutes 55% of the buyers. Also, washrooms within these markets are a major determinant that makes buyers comfortable when coming to buy from these markets. This implies that, buyers would be interested in patronizing markets where basic facilities can be accessed.

Factors of Consumer's Choice towards in Selecting the Satellite Markets

Buyers take several factors into account in selecting a market. Table 4 illustrates that about 80% of the buyers are interested in the goods and products sold at the satellite markets. This is the major factor of a consumer's choice in selecting a market. Also, the location and size of these markets representing 20% was an indicator of a consumer's choice in selecting a market. The implication is that, buyers as rational as they are patronize markets where most goods and products are sold.

Sellers take several factors into consideration in selecting a satellite market. Table 4 depicts that about 82.2% of the sellers are much interested in the goods and products sold in these markets. Also, the location, size and type of facilities available in the satellite market constitute 29.9% and 8.9% respectively. This implies that, sellers are much interested in meeting the needs of the buyers who come to the market to trade.

Table 4: Factors of Consumer's Choice in Selecting a Satellite Market

Facilities Available	Buyers		Sellers	
	Frequency	Percentage	Frequency	Percentage
Location and size	8	20	13	30
Goods sold	32	80	28	82
Facilities available			4	9
Total	40	100	40	100

Source: Authors Construct, March, 2014.

Economic Benefits Derived from the Satellite Markets

Some of the economic benefits derived from satellite markets include increased revenue of the sub-metro through market tolls. The sellers indicated that, when the satellite markets are improved, it will raise the revenue collected from the traders to the various sub-metros and the KMA. It was also revealed that another economic benefit derived from the

satellite markets is decongesting the Central Business District (CBD) as more people will not be attracted to the central market. Also, it boosts the commercial activities in the satellite markets as more people will be attracted to these markets. This implies that, the revenue generated by the KMA through the sub-metros can be used to maintain the various satellite markets and also embark on developmental projects that will positively impact on the metropolis.

Challenges Facing the Satellite Markets

In spite of the numerous economic benefits that satellite markets provides, there are several challenges confronting these satellite markets. Table 5 indicates that, 64.4% of the sellers identified the types of facilities available in these markets as a major challenge confronting these satellite markets. According to Neufert (1998) some facilities that should be provided within a market are postal agency, water, electricity, police post and a local sanitary area. Also, another challenge is the availability of products in the markets constituting 35.6% of the sellers. The implication on development is that, buyers will not be attracted to these markets since the basic types of facilities necessary to attract buyers are not accessible.

Table 5: Challenges Facing the Satellite Markets

Facilities available	Buyers		Sellers	
	Frequency	Percentage	Frequency	Percentage
Facilities available	30	75	29	64.4
Availability of Goods	10	25	16	35.6
Total	40	100	40	100

Source: Authors Construct, March, 2014.

There are several challenges confronting the effectiveness of the satellite markets. The table below from the survey indicates that 75% of the buyers that trade in these markets indicated that, the major challenge facing these markets is the types of facilities available in the satellite markets. Another challenge confronting these markets is availability of products in these markets. Buyers are interested in patronizing a market where all major goods and products can be easily accessible. However this implies that, more sellers would not be attracted to sell at the satellite markets since basic facilities like water, electricity, police post, urinal or toilet among others are lacking, therefore congestion in the CBD would increase.

Summary of Key Findings

This chapter analyzed shows that, the satellite markets when improved can help decongest the CBD. This justification has been possible by trying to correlate the findings from the research with the literature review in the earlier part of the research on using satellite markets as the strategy to decongest the CBD. This is attributed to inadequate facilities that attract traders to the satellite markets, coupled with ineffective monitoring of new developments and regulatory systems on the part of KMA and the various sub-metros. This chapter therefore serves as the springboard and impetus for the next chapter which will examine the major findings of the study and make recommendations accordingly.

Ideally, some of the facilities a market should have are: storage facility, shopping area, market area, factory mills, warehouse, guard, fire exit, parking facility, Automated Teller Machine (ATM's), electrical switches, service area, female and male toilets and urinals, customer restaurant, offices among others (Ernst and Neufert, 1998). From the data gathered, it was found that some of the types of facilities that attracted traders, that is, sellers and buyers towards this satellite markets were toilet and urinal facility, parking facility and the presence of lorry/bus terminal among others.

Some of the strategies to decongest the Central Business District (CBD) are task force personnel should be placed at vantage points to deter traders or hawkers who trade illegally within the CBD, eradicating or eliminating all unauthorized structures within the CBD among others.

The survey identified that goods and products sold in the satellite markets are a major determinant of consumers' preference towards the markets. Virtually, almost all food products that one needs to purchase from a market can be found in these markets. It ranges from food products, toiletries, spices, grains among others. Traders are attracted to a market where variety of goods and products could be accessed. This contributes strongly to consumers' preference towards the satellite markets.

Some of the economic benefits derived from the satellite markets are boosting of economic activities in the markets as more traders are attracted to the satellite markets. This will go a long way to decongest the CBD as more traders will not be attracted to the central market. The economic benefits derived from the satellite markets helps in reducing cost and travel time, since no consumer will travel to the CBD to purchase goods and products at the central market. Also, it increases the revenue mobilization of the sub-metros as taxes in the form of market tolls will increase as more traders trade in the satellite markets.

The measures adopted towards improving the satellite markets in the metropolis are ejecting all unauthorized stations and loading points and placing them at the satellite markets, assigning competent staff as managers to run the satellite markets, provision of basic facilities that attract traders to the markets among others. Based on these findings from the survey, the satellite markets need to be improved in order to help in decongesting the CBD. To prevent the satellite markets as a barrier to decongesting the central business district (CBD), recommendations have been made.

RECOMMENDATIONS

Key stakeholders such as the city authorities and traders need to be educated intensively by the KMA. This is to make them aware of the need to effectively play their roles to ensure orderly physical developments with the markets in the metropolis. Moreover, population participation in using the satellite markets as a strategy to decongesting the CBD is also encouraged in this direction to help achieve this phenomenon.

One major reason given by the KMA for their ineffectiveness was related to them being under resourced in terms of personnel and logistics. These institutions are unable to perform their duties as expected of them. Due to inadequate personnel and logistics, they are not able to effectively monitor illegal traders and unauthorized structures, stalls and shelves that spring up. They must be provided with the requisite logistics to enable them effectively and efficiently monitor and regulate unauthorized physical developments in the markets. This modern equipment would be crucial in controlling and eradicating uncoordinated developments in the satellite markets as well as the CBD.

Some measures in improving the satellite markets are expansion and extension of the marketplaces to accommodate more traders. From the revised planning standards, the plot size of a market should be 100 square meters and the commercial floor area should be approximately 200 square meters but that is not the case of these satellite markets in the metropolis. The various lands designated for the commercial activity should be optimally used. Also, there is the need to go for vertical developments in these markets when the need arises in order to reduce the rate of congestion and enhance the accommodation of more traders in the satellite markets.

Some measures to improve the satellite markets are the provision of toilet/ urinal, lorry/bus terminal and parking facilities. These facilities help in improving and attracting trade towards the satellite markets. Also, some measures at improving the satellite markets are extension of the marketplaces to accommodate more traders, improving the sanitary conditions in these markets, constructing of lanes and drains within these markets to make physical accessibility in the markets and lastly, improving security in the satellite markets. This implies that, congestion which is the main challenge facing markets in the metropolis can be curbed.

CONCLUSIONS

The outcome of such challenges are as a result of inadequate institutional law enforcement on the part of KMA and the sub-metros to ensure that, basic facilities are available or provided, provision of parking facility and lorry/bus terminal, authorized structures should be erected among others. The effects of these are congestion in the markets and fire outbreaks. It is therefore necessary that pragmatic measures are adopted to regulate the efficiency and effectiveness of the satellite markets in the Kumasi metropolis. It is this vein; the research has provided various recommendations to help manage the satellite markets in order to decongest the CBD. Such strategies when implemented will improve or enhance the effectiveness of the satellite markets while making it more attractive for domestic investment. These recommendations would help decongest the CBD. However, these strategies would only yield the desired results if there is no commitment on the part of the Government, KMA, the various sub-metros` and the traders to implementing the above recommended measure.

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